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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/714,790	11/14/2003	Laurence Bigio	GECZ 2 00489-1	2976

7590 10/19/2004
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EXAMINER

ROY, SIKHA

ART UNIT	PAPER NUMBER
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2879

DATE MAILED: 10/19/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary**Application No.**

10/714,790

Applicant(s)

BIGIO ET AL.

Examiner

Sikha Roy

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 August 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4,7-10,12,13,16,20 and 21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4,7-10,12,13,16,20 and 21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

The Amendment, filed on August 18, 2004 has been entered and is acknowledged by the examiner.

Specification

In the paragraph to the beginning of the specification 'application Serial No. 09/603,025, filed June 6, 2004' should be replaced with -- application Serial No. 09/603,025, filed June 6, 2000, now abandoned.--.

Claim Objections

Regarding claims 1 and 10, the recitation 'means for eliminating infrared loss at wide angle bulb positions including totally reflecting coating' does not fall within 35 U.S.C. 112, sixth paragraph. In order that a claim limitation will be interpreted to invoke 35 U.S.C. 112, sixth paragraph the phrase "means for" or "step for" must not be modified by sufficient structure, material or acts for achieving specified function. In the instant case 'reflecting coating' acts as modifying structure for the means for eliminating infrared loss. Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3, 7-10, 12, 16, 20, 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 5,660,462 to Bockley et al. in view of U.S. Patent 5,506,471 to Kosmatka et al., and further in view of U.S. Patent 5,017,839 to Arlt et al.

Regarding claim 1, Bockley et al. disclose (column 8 lines 44-67 Fig. 6) a light source comprising a double-ended lamp envelope 204 made of a light transmissive material, wherein the envelope has an ellipsoidal portion inherently having first and second foci, disposed centrally between tubular portions disposed on opposite ends of the ellipsoidal portion, a filament 202 centrally disposed within the envelope, an infrared reflective filter coating 220 on outside surface of the envelope for transmitting visible radiation and reflecting infrared radiation back to the filament and a totally reflecting coating 222 over a portion of the ellipsoidal portion for reflecting both visible light radiation and infrared radiation back to the filament, for controlling the light output pattern and for increasing the efficiency of the lamp. Bockley further discloses (column 3 lines 25-36 Fig. 6) that the filament is located on the central axis of the ellipsoidally-shaped envelope and between the first and second optical foci such that the reflective coating reflects radiation emitted by the filament back to the filament.

Bockley implicitly discloses (column 8 lines 55-60) that the interference filter coating 220 can be fabricated as described in U.S. Patent 4,942,331 as having alternate layers of high and low refractive indices. This has also been evidenced by Kosmatka et al. This interference coating transmits the visible radiation and reflects infrared portion

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of the emitted radiation back towards the filament and increases the efficacy of the filament.

Claim 1 differs from Bockley in that Bockley does not exemplify the totally reflecting coating disposed on opposite ends of the envelope subtending an angle of approximately 45° and less measured from an axis aligned with the filament.

Arlt et al. in the same field of endeavor disclose (column 3 lines 31-35 Fig. 1) that coatings 8 and 7 are applied at the end regions of the envelope, the lateral axis of the lamp and a connection line between the center of the discharge vessel and the inner edge of the coating forms an angle between 50° and 55° and hence the edge of the coating subtends an angle preferably between 40° ($90^\circ - 50^\circ$) and 35° ($90^\circ - 55^\circ$) from the axis aligned with the filament. Arlt et al. further disclose (claim 8) the coating thus quite well covers the space behind the electrodes and so all the radiation emitting in this area are reflected back upon operation of the lamp.

Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to modify the totally reflecting coating of Bockley et al. disposed such that it subtends an angle between 40° and 35° as taught by Arlt et al. This specific position of the coating provides benefit of well covering the area behind the filament and reflecting all the radiation emitted in this area back to the filament, heating the filament and thus increasing the efficiency of the lamp as disclosed by Bockley.

Regarding claims 2 and 3 Bockley et al. disclose a pair of lead wires connected to opposite ends of the filament.

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Referring to claim 7 Arlt discloses (column 9 lines 40-43) the coating on the end portions of the discharge vessel reflecting visible and invisible radiation back towards the filament.

Regarding claims 8 and 9 Arlt discloses (column 3 lines 31-35 Fig. 1) the lateral axis of the lamp and a connection line between the center of the discharge vessel and the inner edge of the coating forms an angle preferably between 50° and 55° and hence the edge of the coating subtends an angle preferably between 40° ($90^{\circ} - 50^{\circ}$) and 35° ($90^{\circ} - 55^{\circ}$) from the axis aligned with the filament.

Regarding claim 10 Bockley et al. disclose all the limitations which are same as claim 1 and additionally the specularly reflective coating made of aluminum, silver (column 5 lines 55-60) directing the radiation back to the filament.

Regarding claims 12 and 21 Bockley and Arlt et al. disclose the totally reflecting coating disposed on end regions of the ellipsoisal portion of the envelope and tubular portions extending from the opposite ends of the ellipsoidal portion.

Claim 16 essentially recites the same limitation as of claim 7 and hence is rejected for the same reason.

Regarding claim 20 Bockley et al. disclose (Fig. 1) the light source mounted in a reflector 14 receiving visible light from the light source, the totally reflecting coating matching useful reflecting areas of the reflector.

Claims 4 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 5,660,462 to Bockley et al., U.S. Patent 5,506,471 to Kosmatka et al., and

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U.S. Patent 5,017,839 to Arlt et al. and further in view of U.S. Patent 4,375,605 to Fontana et al.

Regarding claim 4 Bockley and Arlt do not explicitly disclose the length of the filament fitting between the first and second optical foci of the ellipsoidal portion.

Fontana et al. in analogous art of ellipsoidal envelope of an incandescent lamp disclose (column 6 lines 11-15) the filament mounted along the major axis and its length fitting within the two foci of the major axis of the envelope. Fontana et al. further disclose (column 5 lines 28-40) that because of this design, a substantial portion of the reflected radiation reaches and hence increases the temperature of the filament producing a greater lumen output.

Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to modify the length of the filament of Bockley et al., Kosmatka and Arlt fitting between the first and second optical foci of the ellipsoidal portion of the envelope as suggested by Fontana et al. for reflecting a substantial portion of the radiation on the filament and increasing its temperature and thus producing a greater lumen output.

Claim 13 essentially recites the same limitation as of claim 4 and hence is rejected for the same reason.

Response to Arguments

Applicant's arguments with respect to claims 1 and 10, filed August 18, 2004 have been fully considered but they are not persuasive.

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In response to applicants' argument that the function of the reflective end coat in U.S. Patent 5,017,839 to Arlt et al. is different from that of the instant application the Examiner respectfully disagrees. Arlt discloses (column 2 lines 48-53 claim 8 column 9 lines 40-43) that the resulting heat due to infrared radiation is reflected due to suitable doping of the material of the discharge vessel and coating of the discharge vessel so that heat will be reflected internally of the discharge vessel. Radiated heat from the discharge vessel thus is reduced and heat losses can be minimized. The coating of total reflecting film on the end portions adjacent to press seal reflecting both visible and invisible radiation back inside the envelope thus increases temperature and hence enhances of the efficiency of the lamp. The examiner submits that this motivation of Arlt is same as that of the application which discloses (page 2 lines 5-10) the net effect is to return more IR radiation to the coil, thereby heating the coil and increasing the efficacy of the lamp.

In response to the use of means plus function claim language the examiner notes that the recitation 'means for eliminating infrared loss at wide angle bulb positions including totally reflecting coating' does not fall within 35 U.S.C. 112, sixth paragraph. In order that a claim limitation will be interpreted to invoke 35 U.S.C. 112, sixth paragraph the phrase "means for" or " step for" must not be modified by sufficient structure, material or acts for achieving specified function. In the instant case 'reflecting coating' acts as modifying structure for the means for eliminating infrared loss.

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Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sikha Roy whose telephone number is (571) 272-2463. The examiner can normally be reached on Monday-Friday 8:00 a.m. – 4:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimeshkumar D. Patel can be reached on (571) 272-2457. The fax phone number for the organization is (703) 308-7382.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR.

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Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

SR

Sikha Roy
Patent Examiner
Art Unit 2879

Joseph Williams
Joseph Williams